

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
17 July 2003 (17.07.2003)

PCT

(10) International Publication Number
WO 03/058699 A1

(51) International Patent Classification⁷: H01L 21/306,
C23F 1/00, B05C 11/00, C23C 14/32

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(21) International Application Number: PCT/US02/38989

(22) International Filing Date:
31 December 2002 (31.12.2002)

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(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/343,175 31 December 2001 (31.12.2001) US

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,
CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,
MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE,
SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ,
VC, VN, YU, ZA, ZM, ZW.

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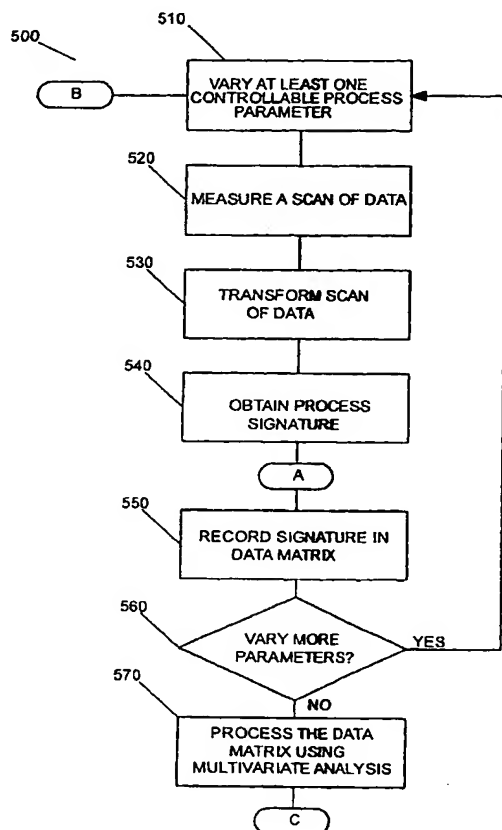
(84) Designated States (*regional*): ARIPO patent (GH, GM,
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),

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[Continued on next page]

(54) Title: METHOD OF FAULT DETECTION FOR MATERIAL PROCESS SYSTEM



(57) Abstract: A method for material processing utilizing a material processing system to perform a process. The method performs a process (510), measures a scan of data (520), and transforms the data scan (530) into a signature (540) including at least one spatial component. The scan of data (530) can include a process performance parameter such as an etch rate, an etch selectivity, a deposition rate, a film property, etc. The signature (540) can be stored (550), and compared with either a previously acquired signature or with an ideal signature (560). If at least one spatial component substantially deviates from the reference spatial component, then a process fault has potentially occurred. If the cumulative deviation of all spatial components or a select group of components substantially deviates from a reference set of spatial components, then a process fault has potentially occurred.